SECTION VI.—WEATHER AND DATA FOR THE MONTH.

THE WEATHER OF THE MONTH.

By P. C. DAY, Climatologist in Charge of Climatological Division.

Pressure.—The distribution of the mean atmospheric pressure over the United States and Canada, and the prevailing directions of the winds are graphically shown on Chart VII, while the average values for the month at the several stations, with the departures from the normal, are shown in Tables I and III.

The barometric pressure for the month as a whole was above the normal over practically the entire country, the plus departures being rather marked in the region of the Great Lakes, the Ohio drainage area, and the Middle Atlantic States. The monthly means were somewhat less than the normal in the central portions of the mountain districts of the West and also in the far Northwest, and as a rule they were near the normal values from the Plains States westward to the Pacific coast.

Pressure changes were active for the season during the first decade of the month. At the beginning a low-pressure area moved from the upper Mississippi Valley to the Canadian Maritime Provinces, and was followed by an extensive, though not intense, area of high barometric pressure which reached the Atlantic coast about the 6th. At this time another cyclonic area had advanced to the Lake region, and a disturbance was also moving inland from the north Pacific Ocean.

At the beginning of the second decade the Lake storm had given way to a marked area of high pressure which covered all eastern districts, and the Northwest low-pressure area had advanced to the Plains region with decreased intensity, but it caused unsettled barometric conditions to the eastward during the following few days. After the middle of the month an extensive area of high pressure persisted in eastern and northeastern districts, with low pressure to the westward, and near the close of the decade a tropical disturbance moved from the South Atlantic coast to the west Gulf States, finally dissipating in the latter locality.

With the exception of a disturbance that moved northeastward from the Gulf and disappeared off the South Atlantic coast during the first few days of the third decade, and low pressure in the same region during the closing days, high pressure dominated the weather in most districts during the last decade of the month, this condition being especially marked in northern districts east of the Mississippi River.

The distribution of the highs and lows was such as to favor the frequent occurrence of northerly winds over most districts east of the Mississippi, while winds from a southerly direction were the rule to the westward, although in the mountain districts the usual variable winds were in evidence.

Temperature.—At the beginning of the month there was a change to warmer weather over all districts to eastward of the Mississippi River, but at the same time cooler weather advanced from the British Northwest and covered the Plains region and upper Mississippi Valley within a few days, being especially cool in the mountain regions of the West, where the minimum temperatures fell to freezing, or slightly lower, at exposed points, and frost occurred in portions of Montana and Wyoming. This cool area rapidly overspread the more eastern sections, but it was followed immediately by warmer weather, and by the 5th maximum temperatures of 100° or higher were recorded at points in the Plains States. However, near the close of the first decade increasing pressure in the Canadian Provinces to northward of the upper Lake region gave cooler weather from the upper Mississippi Valley eastward to New England, frost occurring at exposed points in the region of the Great Lakes.

The cool weather over eastern districts continued during the first half of the second decade, but with a tendency to warmer as the high pressure drifted slowly eastward to the ocean. About the middle of the month a sharp fall in temperature occurred in the northern Rocky Mountain and Plateau regions, but to the eastward warmer weather was the rule, and by the end of the decade temperatures were near or above the seasonal average generally.

Early in the last decade there was a marked increase in pressure over the Mountain regions of the West, with a corresponding sharp fall in temperature, but warm weather continued to eastward of the mountains. The western cool area advanced rapidly and overspread eastern districts, but in the meantime there was a gradual warming up to the westward. Near the end of the month unseasonably cool weather obtained in the Middle Atlantic States and to the northward, the lowest temperature of record for September occurring at points in Virginia and in New England on the morning of the 29th.

The mean temperature for the month as a whole was above the normal from the Mississippi Valley westward to the Plateau region, except in the northern portion of the latter district, and also in the extreme northeast. The largest plus departures, which, however, were not marked, amounting to only slightly more than 3°, appear in the Plains region and portions of the Rocky Mountain district. East of the Mississippi, and in the far West the means for the month were less than the normal, but, like the positive departures, the values were generally small, reaching 3° at only a few points.

Precipitation.—A barometric disturbance that moved from the upper Mississippi Valley over the region of the Great Lakes and down the St. Lawrence Valley during the first few days of the month gave general showers over northern districts to eastward of the Rocky Mountains. Generally fair weather prevailed during the 4th and 5th, but near the end of the first week a second disturbance moved eastward over northern districts, accompanied by unsettled, showery weather over those sections, with heavy local falls at points in the great central valleys, 7.02 inches of rain occurring at Kansas City, Mo., during the 24 hours ending at 8 p. m. of the 7th. Near the end of the decade a low-pressure area moved inland from the north Pacific coast and quite general rains occurred in the far Northwest, largely relieving the droughty conditions that had persisted in that locality.

The northwest rain area advanced rapidly eastward and reached the upper Mississippi Valley early in the second decade, with heavy local falls at points in the Plains region and lower Missouri Valley, and during the following few days unsettled weather was the rule in eastern districts. A disturbance that had moved northward from the Bahama Islands appeared off the east Florida coast on the morning of the 16th, with high northeast winds and rain along the South Atlantic seaboard. During the following few days this storm moved slowly westward, with decreasing intensity, but during this time the rain area had extended northward and westward over the South Atlantic States and most of the Gulf region.

During the first half of the third decade unsettled, showery weather was the rule in districts east of the Rocky Mountains, with some heavy falls in the southeastern States about the 25th, but during the remainder of the month the rainfall was mostly light and local, except for general showers in the east Gulf and South Atlantic States during the closing days, where some further heavy falls occurred.

For the month as a whole the rainfall was heavy, ranging from 6 to 12 inches or more in the middle Mississippi and lower Missouri Valleys, and like amounts occurred also in Florida, while from 6 to 8 inches fell in portions of the other east Gulf States and near the Pacific coast in the far Northwest. With the exception of the sections named, the rainfall for the month was generally light, being markedly deficient in the central and southern portions of the Mountain districts of the West, in the Southwest, and in the central and northern sections east of the Mississippi. The deficiency was especially marked in the States from the Lake region eastward and from Virginia northward to New England, where drought was becoming severe at the close of the month.

GENERAL SUMMARY.

The most noteworthy features of the weather for the month of September, 1914, were the unequal geographic distribution of precipitation, it being excessive in portions of the great central valleys and the southeast and markedly deficient in other large areas, and the persistent cool weather during the first half of the month in northern districts and the unseasonal warmth in those sections during the latter half.

In the great winter-wheat belt moisture was sufficient to maintain the soil in excellent condition, except locally where it was too wet, and the seeding of a large acreage progressed satisfactorily, while in the principal corn-growing States the crop matured without injury from frost.

In the cotton belt some damage occurred from high winds and rain in the central and eastern portions and picking was somewhat delayed, but on the whole the weather was favorable.

In other districts the weather was generally favorable for the maturing of late crops and for fall work, the principal exceptions being the droughty conditions in the Middle and North Atlantic States mentioned elsewhere.

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The temperature for the crop-growing season of 1914 as a whole, March to September, inclusive, was not abnormal, the departures from the normal being within rather moderate bounds, although it was a moderately warm season in the central valleys and the Northwest. However, the precipitation was unevenly distributed geographically, some sections having received much more than the normal amount while in others marked deficiencies are noted, the latter comprising considerable portions of the principal crop-growing sections of the country. The greatest deficiencies in rainfall appear in the central and southern districts east of the Mississippi River and in the Pacific Coast States, notably in California. On the other hand, much of the Plains region and the northern districts from the Rocky Mountains eastward to the Great Lakes, as well as the greater portion of Texas, received much more than the normal amount of rainfall for the season.

Average accumulated departures for September, 1914.

Districts.	Temperature.			Precipitation.			Cloudiness.		Relative humidity.	
	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure from the normal.	General mean for the current month.	Departure from the normal.
	°F.	°F.	°F.	Inches	Inches	Inches.			P.ct.	
New England	61.2	+0.5	− 9.0	1.02	−1.10	− 3.90	4.3	−0.9	73	−8
Middle Atlantic	64.8	−1.4	− 2.5	0.89	−2.40	− 5.80	3.8	−0.8	71	−6
South Atlantic	71.6	−1.6	+ 2.6	3.53	−1.20	−12.00	5.2	+0.5	78	−2
Florida Peninsula	79.7	−1.0	− 3.6	5.87	−2.10	−13.80	5.9	+0.5	78	−3
East Gulf	74.4	−0.4	− 2.8	5.27	+1.40	− 4.10	4.8	+0.2	78	+2
West Gulf	77.5	−1.8	+ 5.7	2.28	−1.20	− 5.00	3.3	−0.9	74	0
Ohio Valley and and Tennessee	67.6	−0.6	+ 2.1	1.66	−1.10	− 6.70	4.3	−0.1	72	0
Lower Lakes	61.7	−1.5	− 7.8	1.72	−1.10	− 0.90	4.2	−0.6	71	−2
Upper Lakes	59.9	+0.8	+ 3.7	2.28	−0.90	+ 0.20	4.7	−0.5	79	+2
North Dakota	59.6	+2.4	+14.2	1.16	−0.30	+ 2.90	3.9	−0.5	70	+4
Upper Mississippi Valley	65.7	+0.9	+14.9	5.25	+1.90	− 3.30	4.5	+0.2	78	+6
Missouri Valley	67.4	+2.1	+20.7	5.23	+2.40	− 0.60	4.2	+0.2	71	+5
Northern slope	58.0	+0.7	+16.3	1.03	−0.10	− 1.70	4.3	+0.3	58	+3
Middle slope	71.0	+3.4	+20.3	1.79	−0.20	− 3.60	3.3	−0.1	62	+4
Southern slope	74.7	+1.9	+ 7.6	0.66	−1.90	+ 2.50	2.6	−1.2	62	−1
Southern Plateau	72.1	+1.5	+ 3.4	0.27	−0.60	− 1.20	2.7	+0.2	46	+7
Middle Plateau	61.8	+0.2	+ 9.4	0.31	−0.50	− 0.30	3.1	+0.2	39	+1
Northern Plateau	59.1	−2.1	+16.4	1.15	−0.20	− 1.10	4.6	+1.0	50	−2
North Pacific	55.9	−1.0	+12.2	3.09	+0.70	+ 0.40	7.0	+1.7	81	+9
Middle Pacific	61.9	−1.5	+ 4.9	0.32	−0.30	− 0.70	3.2	−0.2	61	−6
South Pacific	67.1	−0.2	+12.8	0.06	−0.20	+ 3.60	2.9	+0.3	67	−1

Maximum wind velocities, September, 1914.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		mi./hr.				mi./hr.	
Buffalo, N. Y.	3	60	sw.	New York, N. Y.	7	52	nw.
Do	27	50	w.	Do	30	54	nw.
Cheyenne, Wyo.	12	60	w.	North Head, Wash.	17	58	se.
Do	14	50	w.	Do	18	92	se.
Hatteras, N. C.	25	52	n.	Pittsburgh, Pa.	2	53	nw.
Havre, Mont.	18	50	w.	Point Reyes Light,			
Lander, Wyo.	15	64	sw.	Cal.	6	52	nw.
Modena, Utah	15	52	s.	Do	7	50	nw.
Mount Tamalpais,				Do	11	68	nw.
Cal.	6	52	nw.	Do	12	66	nw.
Do	7	52	nw.	Do	26	54	nw.
Do	8	52	nw.	Tatoosh Island,			
Do	15	56	nw.	Wash.	27	52	s.